

Remarks

In response to the Office Action dated October 6, 2004, the claims have been amended and reconsideration is requested based on the amended claims and the remarks which follow.

Claim Objections

Claim 36 has been amended to be in independent form.

Claims 1, 4, 5, 17, 22, 23, 24, 30, 34 and 35 have been amended to comply with the American English spelling of “prioritized” and “fulfill”.

Claim Rejections – 35 USC § 112

Claims 1, 5, 10, 23 and 35 have been amended to provide explicit antecedent basis for the terms objected to.

Claim Rejections – 35 USC § 101

Claims 1, 23 and 30 have been amended to recite a “computer-implemented method”, and such claims thereby involve the technological arts. As regards the statement that claims 23 and 30 do not provide a tangible result, the objection is not understood, and if the Examiner still maintains the rejection after the claim amendments, further explanation would be appreciated.

Claim Rejections – 35 USC § 102

The Examiner’s primary reference, Powell et al (US 2002/0065700 A1), discloses a resource-allocation method for a mobile workforce. However, Powell’s location-oriented allocation is based upon assigning a geographic block to the geographic location of each workforce member or agent. Each agent is then assigned all work orders associated with their geographic block until the agent’s work schedule is filled. If the agent is still available after all the work orders associated with that block are assigned, the search then moves into work orders associated with adjacent geographic blocks (par. [0044]).

Powell focuses on each agent individually and work orders in their vicinity, and does not make decisions on which agent is most suitable (and most quickly available) for a particular work order. The present application makes the distinction of maintaining a list of each agent's suitability as regards a particular location, and when an order arises with regard to any location, it can be easily seen which agent is best placed to deal with the order.

So, if an order ("Order A") were to arise that was in a different geographic block from each agent, and this order was followed by a large number of orders ("Order B", "Order C", etc.) all of which happened to be in geographic blocks where agents are available, the method disclosed in Powell will result in each agent attending to work orders in their geographic block first. This could result in orders B, C, D, etc. being dealt with sooner than Order A. The method disclosed in the present application will result in the agent best placed to deal with the initial order being scheduled to attend to the order straight away, ensuring order continuity.

Considering the respective methods in more detail, the Examiner's analysis of the prior art, as it is alleged to read onto claim 1, cannot be accepted for the following reasons.

Claim 1 of the present application requires that firstly, a record is kept of the location and time at which each agent is going to become free, and secondly, that a prioritized listing of locations is maintained for each agent.

The records maintained in Powell simply show, for each agent, the schedule and locations where each agent is due to visit. The system of Powell has no information on locations where the agent is **not** currently due to visit, and no current record is maintained of the availability of each agent to reach locations where there is no scheduled order.

It is submitted that this fundamental difference has been overlooked. For clarity, and to ensure that this point is considered and given due weight, a brief example will be given of the different operation of each system.

So, if one considers a simple system, where three agents are servicing a 4 x 4 grid, the

differences between the invention and Powell's system can be seen in stark contrast to one another.

The grid takes the form of a 4x4 square arranged like this:

| | | | |
|----|----|----|----|
| 01 | 02 | 03 | 04 |
| 05 | 06 | 07 | 08 |
| 09 | 10 | 11 | 12 |
| 13 | 14 | 15 | 16 |

Powell will maintain three agent schedules. For each agent this will detail the time and location (grid reference number) of each order. So the Powell schedule might be represented as follows:

| | 9-10 | 10-11 | 11-12 | 12-1 | 1-2 | 2-3 | 3-4 | 4-5 |
|-----------|------|-------|-------|------|-----|-----|-----|-----|
| Agent 1 | | | | | | | | |
| Grid Ref: | 07 | | 07 | | 07 | | 13 | |
| Agent 2 | | | | | | | | |
| Grid Ref: | 06 | | 02 | | 01 | | 05 | |
| Agent 3 | | | | | | | | |
| Grid Ref: | 14 | | 13 | | 09 | | 10 | 10 |

Suppose a new order is received at 10 am for e.g. square 08 (where no agent is scheduled to appear) this will be allocated based on a recursive search to find an agent who is free in an adjacent square. Because square 07 is adjacent to square 08, this order will be assigned to Agent 1 during the afternoon (i.e. in the slot from 12 to 1 pm or in the slot from 2 to 3 pm). Neither Agent 2 nor Agent 3 is ever in or adjacent to square 08. Agent 2 has a long free period between 11.45 and 1 pm, but will *not* be selected to fulfill this order, despite being able to do so earlier than Agent 1, simply on the basis that his current schedule never shows him as being in or adjacent to square 08.

How would this be dealt with by the present invention? The present invention will maintain a current order record, showing when each agent will first be free after 10 am (the time the new order is received). For Agents 1 and 3 the expected time to be free is 12pm, and Agent 2 is expected to be free at 10.45 am.

The prioritized location listing for the three agents will therefore look something like:

| Agent 1 | |
|-----------|--------------|
| Square | Time |
| 07 | 12.00 |
| 03 | 12.05 |
| 06 | 12.05 |
| 08 | 12.05 |
| 11 | 12.05 |
| 02 | 12.07 |
| 04 | 12.07 |
| 10 | 12.07 |
| 12 | 12.07 |
| 05 | 12.10 |
| 15 | 12.10 |
| 01 | 12.12 |
| 09 | 12.12 |
| 14 | 12.12 |
| 16 | 12.12 |
| 13 | 12.15 |

| Agent 2 | |
|-----------|--------------|
| Square | Time |
| 02 | 10.45 |
| 01 | 10.50 |
| 03 | 10.50 |
| 06 | 10.50 |
| 05 | 10.52 |
| 07 | 10.52 |
| 04 | 10.55 |
| 10 | 10.55 |
| 08 | 10.57 |
| 09 | 10.57 |
| 11 | 10.57 |
| 12 | 11.00 |
| 14 | 11.00 |
| 13 | 11.02 |
| 15 | 11.02 |
| 16 | 11.05 |

| Agent 3 | |
|-----------|--------------|
| Square | Time |
| 13 | 12.00 |
| 09 | 12.05 |
| 14 | 12.05 |
| 10 | 12.07 |
| 05 | 12.10 |
| 15 | 12.10 |
| 06 | 12.12 |
| 11 | 12.12 |
| 07 | 12.15 |
| 01 | 12.15 |
| 16 | 12.15 |
| 02 | 12.17 |
| 03 | 12.17 |
| 08 | 12.17 |
| 12 | 12.17 |
| 04 | 12.20 |

So, because each agent has a currently updated listing of locations prioritized according to the earliest time the agent can be free at each location, one can readily see, at the moment an order is received for square 08, that Agent 2 is the most suitable agent to service that order. With the

system as specified in claim 1, new orders are serviced more quickly and are more likely to be serviced according to the order of arrival. Powell clusters orders, on the other hand, to service as many orders as possible in the same location, which results in new orders being handled less efficiently if they are not in common locations with existing orders on an agent's schedule.

It is submitted therefore that the similarities between this application and that of Powell are merely superficial, in that each deals with agent allocations which are in some way location based. However, the respective methods operate in fundamentally different ways (based on features which are claimed in claim 1). It is respectfully submitted that the application is not anticipated or made obvious by Powell.

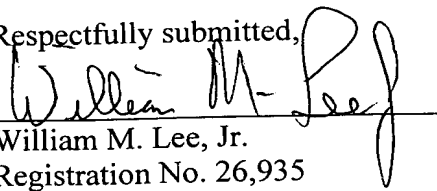
Claims 2-17 and 22 are dependent on claim 1 and therefore benefit from the novelty and nonobviousness of the base claim. Claims 23, 24, 30, 35 and 36 and their dependent claims each share the features of allocating location-based orders using a current order record and a prioritized listing of locations which are present in claim 1 and thus these claims are therefore also submitted to be patentable over the prior art.

Claim Rejections – 35 USC § 103

Claims 18-21, 26, 28 and 29 are dependent on claim 1 and therefore benefit from the novelty and non-obviousness of claim 1.

Given the above, it is submitted that the application is in condition for allowance, and the Examiner's further and favorable consideration in that regard is urged.

Dated: January 17, 2005

Respectfully submitted,

William M. Lee, Jr.
Registration No. 26,935
Barnes & Thornburg LLP
P.O. Box 2786
Chicago IL 60690-2786
(312) 214-4800
Facsimile (312) 759-5646